

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-14. (Cancelled)

15. (Previously Presented) A method for surgically repairing intervertebral disc damage, comprising

- (a) producing a transplantable intervertebral disc tissue *in vitro* comprising
 - (i) transfecting intervertebral disc cells with exogenous nucleic acid;
 - (ii) culturing the intervertebral disc cells in a medium for an effective amount of time to produce intervertebral disc cells surrounded by a cell-associated matrix; and
 - (iii) culturing the intervertebral disc cells surrounded by the cell-associated matrix on a semipermeable membrane in the presence of one or more growth factors for a sufficient amount of time to produce a coherent, engineered intervertebral disc tissue on the membrane; and
- (b) implanting the intervertebral disc tissue into an intervertebral disc defect.

16. (Previously Presented) The method of claim 15 wherein (a) further comprises one or more of:

- (iv) isolating the intervertebral disc cells prior to (ii);
- (v) recovering the intervertebral disc cells surrounded by the cell-associated matrix prior to (iii); and
- (vi) removing the engineered intervertebral disc tissue from the semipermeable membrane.

17. (Original) The method of claim 15 wherein the intervertebral disc cells are annulus fibrosus cells and an annulus fibrosus tissue is produced or the intervertebral disc cells are nucleus pulposus tissue and a nucleus pulposus tissue is produced.

18. (Previously Presented) The method of claim 15 wherein the medium of (ii) is an alginate medium.

19. (Original) The method of claim 15 wherein the one or more growth factors is selected from the group consisting of osteogenic protein-1, bone morphogenetic proteins, cartilage-derived morphogenetic protein, platelet-derived growth factor, bone morphogenetic protein-2, fibroblast growth factor, transforming growth factor beta, insulin-like growth factor and combinations thereof.

20. (Cancelled)